## REMARKS

Claims 1-12 are pending in this application, with Claims 1, 11, and 12 being independent. Claims 1, 4, 5, 7, 11, and 12 have been amended herein.

In view of the amendments above and the remarks below, Applicants respectfully request reconsideration and allowance of the present application.

In the outstanding Office Action, Claims 1-3, 7, 8, and 10-12 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,719,951 (Shackleton) in view of U.S. Patent No. 6,188,776 (Covell). Claims 4-6 were rejected under Section 103(a) over Shackleton in view of Covell and the Drummond publication ("Real-Time Tracking of Complex Structures with On-Line Camera Calibration"). Claim 9 was rejected under Section 103(a) over Shackleton further in view of Covell and U.S. Patent No. 6,266,443 (Vetro).

Without conceding the propriety of the rejections, Applicants have amended, inter alia, each of the independent claims to even more clearly recite the features of the invention they claim. Applicants submit that, at least as amended, the claims are patentably distinguishable from the cited art.

Specifically, amended independent Claim 1 relates to an image processing apparatus. The apparatus includes an input unit, first and second detection units, a scene change detection unit, a generation unit, and an extraction unit. The input unit is arranged to input successive image data. The first detection unit is arranged to detect a change in the successive image data and the second detection unit is arranged to detect a color of the successive image data. The scene change detection unit is arranged to detect a scene change in the successive image data. The generation unit is arranged to generate initial contour information for extracting an object existing in the image data, in accordance with outputs of the first, second, and scene change detection units. The extraction unit is

arranged to extract object image data corresponding to the object on the basis of the initial contour information generated by the generation unit.

An example of a first detection unit recited in Claim 1 is illustrated in Figure 1 by second area-division processing unit 132. An example of a second detection unit recited in Claim 1 is illustrated in Figure 1 by the first area-division processing unit 131. An example of a scene change detection unit is illustrated in Figure 1 by determination unit 120. An example of a generation unit is illustrated in Figure 1 by information generation unit 130.

With the features recited in independent Claim 1, the image processing apparatus generates initial contour information for extracting an object existing in the image data in accordance with outputs of the first, second, and scene change detection units. That is, the generation unit generates initial contour information in accordance with the detection of a change in the successive image data, the color of the successive image data, and a scene change detected in the successive image data input to the apparatus. Based on that generated initial contour information, the extraction unit extracts object image data corresponding to the object.

Independent Claim 11 relates to an image processing method. The method of Claim 11, as amended, includes steps that perform functions parallel to the operation of the components of the image processing apparatus in amended Claim 1. Likewise, amended independent Claim 12 relates to a storage medium which stores computer readable program codes for executing image processing steps, as recited for the method of amended Claim 11.

Applicants submit that the cited art, taken singly or in combination, fails to teach or suggest the features recited in Applicants' independent claims. Specifically, Shackleton discloses a method of processing an image. As the Examiner acknowledges,

Shackleton does not disclose extracting an object in accordance with the color of the image data. In addition, Applicants submit that Shackleton fails to teach or suggest using a scene change detection result to extract the object. Thus, Shackleton also fails to teach or suggest generating initial contour information for extracting an object in accordance with outputs of the first, second, and scene detection units which detect a change in the successive image data, a color of the successive image data, and a scene change in the successive image data, respectively, as Claim 1 requires. Likewise, Shackleton also does not each or suggest the corresponding generation step of Claims 11 and 12.

Covell relates to data analysis to estimate hidden data from observed data. Applicants submit that Covell does not cure the deficiencies of Shackleton, at least because it does not teach or suggest generating initial contour information for extracting an object in accordance with detected change in the successive image data, a color of the successive image data, and a scene change in the successive image data, as the generation unit and step of the independent claims require.

The Drummond article relates to real-time tracking of complex structures with on-line camera calibration. Applicants submit that the Drummond article does not cure the deficiencies of Shackleton and Covell regarding the generation unit and step discussed above.

Vetro relates to a method for detecting a boundary in a sequence of two-dimensional images. Applicants submit that Vetro does not cure the deficiencies of the documents discussed above. Specifically, Applicants submit that Vetro fails to teach or suggest the generation unit or step as recited in each of the independent claims for generating initial contour information, as discussed in detail above.

Accordingly, Applicants submit that the independent claims are patentably distinguishable from the cited art, taken singly or in combination.

Applicants further submit that the dependent claims are patentably distinguishable from the cited art for at least the reasons discussed above for the independent claims. Applicants also submit that the dependent claims recite additional features further distinguishing them from the cited art, and respectfully request individual consideration of each dependent claim.

In view of the foregoing, Applicants submit that the application is in condition for allowance. Favorable reconsideration and early passage to issue are respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C., office by telephone at (202) 530-1010. All correspondence should continue to be directed to our address below.

Respectfully submitted,

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